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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/592,436	06/12/2000	Lisa Cousins	571-651	5154

1059 7590 05/07/2003

BERESKIN AND PARR  
SCOTIA PLAZA  
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CANADA

EXAMINER

VANORE, DAVID A

ART UNIT PAPER NUMBER

2881

DATE MAILED: 05/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/592,436

Applicant(s)

COUSINS ET AL.

Examiner

David A Vanore

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-- Th MAILING DATE of this communication app ars on the cov r sh et with the corr spondenc addr ss --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2000 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-14 stand rejected under 35 U.S.C. 102(e) as being clearly anticipated by Whitehouse et al.

Whitehouse et al. teaches a mass spectrometer device and method for the analysis of a specimen comprising the following:

1) An electrospray ion source (1), a multipole (16) which may be a quadrupole, octapole, or higher rod number device, having an RF and AC field applied thereto (Col. 12 Lines 22-29 and Col. 14 Lines 38-Col. 15 Line 19), a collision gas in the multipole (Col. 11 Lines 19-50) where the collisions occur in the multipole at a resonant frequency to excite desired ions, a modulation means for adjusting the applied alternating current (Col. 16 Lines 47-50), and a detector (47) where the signal produced from many data sets of mass spectra is collected and passed to an analysis means where alternating

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data sets are subtracted from others to screen parent and daughter ion peaks (Col. 15 Line 5-19) as recited in claims 1, 5, 6, 10, 11, 12, 14, 15, and 20.

While Whitehouse fails to explicitly teach a switch, the device of Whitehouse detects and sorts the data received from multiple generations of parent and offspring ions as cited above. The switching means for manipulating the detected data is an inherent feature of Whitehouse et al.

2) The second power supply and modulation unit recited in claim 16 are inherent features of Whitehouse et al. Whitehouse et al. teaches the application of AC, RF, and DC potentials to the multipole (16) and the modulation of all of these signal in the cited passages above. Necessarily, the device has a plurality of power supplies and modulation means would have to be coupled to the power supplies.

3) A first mass analysis section for selecting a parent ion and detecting with detector (38), a final mass analysis section including a detector (47), where the final mass analyzer includes a scanning mass analyzer with a time of flight detection means (Col. 8 Lines 31-35) as recited in claims 17-19.

4) The selection of a desired  $m/z$  ratio, providing a potential difference to accelerate ions into the collision cell, fragmenting selected ions using their kinetic energy or by applying a resonant field to create any of a plurality of offspring ions (Col. 8 Line 36-Col. 9 Line 18) as recited in claims 7-9. The generation of secondary, tertiary, or quaternary offspring ions is an inherent capacity in  $MS/MS^n$  devices.

5) A device which uses statistical analysis to select data and performs time of flight mass analysis in real time (Col. 7 Line 52-61) as recited in claims 2 and 4. The

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use of a software program to perform statistical analysis on the data as recited in claim 3, is an inherent feature of the invention of Whitehouse et al. because the use of a computer to process data in a mass spectrometer, especially one such as Whitehouse et al. which analyzes a large quantity of spectra data, is necessary and conventional.

6) A method of analyzing a specimen where an alternating current is applied and turned on and off to selectively generate different species of ions for analysis (Col. 14 Lines 38-60) as recited in claim 13.

### ***Response to Arguments***

Applicant's arguments filed on February 12, 2003, have been fully considered but are not found to be persuasive.

Applicant argues with respect to claims 1 and 14 that Whitehouse et al. fails to teach mass selection prior to the collision cell. This limitation is not present in claims 1 and 14 and hence this argument does not pertain to claims 1 and 14.

Applicant argues with respect to claims 1 and 14 that Whitehouse et al. fails to disclose the permitting of all ions entering the collision cell to fragment and produce fragment ions. This limitation is not present in claims 1 and 14 and is therefore not persuasive.

Applicant also argues that Whitehouse et al. fails to teach the method and apparatus of claims 1 and 14 where the initial ions introduced into the mass spectrometry system claimed by the applicant are "precursor" ions. Applicant has amended the claim language to include the term "precursor" ions. Examiner disagrees this argument. Whitehouse et al. teaches an MS/MS<sup>n</sup> system where a first ion species

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from a sample is introduced into a collision cell and caused to selectively fragment with a collision gas in a multipole such that the application of selected resonant frequencies will produce successive generations of daughter fragment ions from a previous or precursor ion species. Whitehouse et al. clearly teaches this and the selection of a given ion species (Col. 11 Line 35-Col. 12 Line 20 and Col. 16 Line 25 – Col. 18 Line 16).

Whitehouse et al. teaches the claimed invention in the present application. The rejection is made final.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

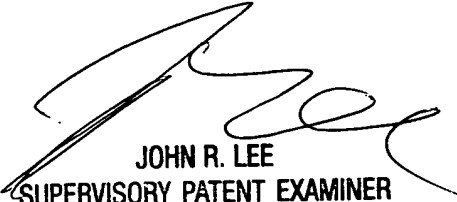
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Vanore whose telephone number is 703-306-0246. The examiner can normally be reached on M-F 7:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Lee can be reached on 703-308-4116. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

dav  
April 21, 2003



JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800